

## MAN MACHINE INTERFACE FOR POWER MANAGEMENT CONTROL SYSTEMS

### Abstract

A utility for rapid development of three dimensional representations of electrical distribution switchgear is provided. These switchgear elevations have logical connections to the switchgear devices. An elevation can be modified to any dimensions with an infinite number of combinations and arrangements of meters and protection devices to quickly and accurately represent a customer's switchgear. Also, an event logger utility is provided for viewing, organizing and analyzing unusual behavior in a power system. The event logger utility passes a received message as an un-acknowledgeable or acknowledgeable alarm or as an event based upon the contents of a initialization file. A utility for the waveform capture is provided for viewing and analysis of waveforms (e.g., Fourier, frequency and/or harmonic analysis) captured by sophisticated metering devices. Waveforms from a device may be super-imposed for analysis.

Processing of the collected waveform data to display any one of the eight waveform parameters (i.e.,  $I_a$ ,  $I_b$ ,  $I_c$ ,  $I_n$ ,  $V_a$ ,  $V_b$ ,  $V_c$ ,  $V_x$ ) or a combination thereof including an "all" selection in a window tiling format is provided.